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10/619,805	07/15/2003	Ludmila Cherkasova	200310234-1	7672

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EXAMINER

STACE, BRENT S

ART UNIT	PAPER NUMBER
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2161

DATE MAILED: 01/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/619,805

Applicant(s)

CHERKASOVA, LUDMILA

Examiner

Brent S. Stace

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>20060103</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

1. Claims 1-34 have been examined. Claims 1-34 have been rejected. This document is the first Office action on the merits.

Information Disclosure Statement

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Specification

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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3. Claims 4 and 32-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Regarding claim 4, the phrase "approximately" on line 2 renders the scope of the claim(s) unascertainable.

5. Claim 32 recites at least twice "a first node," "a plurality of recipient nodes," and "a file encoded with multiple description coding" on lines 1-4. By the language of the claim, it is unclear if the applicant intended to introduce another first node, plurality of recipient nodes and file encoded with multiple description coding. This rejection propagates downward through the dependant claims, therefore, Claims 33-34 inherit this rejection and are rejected on the same grounds by means of dependency.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3-16, 17, 19-22, 25, 26, and 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No.

2004/0088380 (Chung et al.) in view of U.S. Patent No. 6,477,583 (Zayas et al.).

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8. For **Claim 1**, Chung teaches: "A method of distributing a file from a first node to a plurality of recipient nodes, [Chung, paragraph [0035] with paragraphs [0016]-[0017]] the method comprising:

- partitioning a file into a plurality of subfiles; [Chung, paragraph [0016]]
- distributing the plurality of subfiles from a first node to a first group comprising a plurality of recipient nodes, wherein at least one subfile is distributed from the first node to each recipient node of said first group but no individual recipient node receives all of said plurality of subfiles; [Chung, paragraphs [0016]-[0017] with Chung, paragraph [0009]] and
- ...wherein at least one recipient node of said first group begins communicating a portion of its respective subfile that it is receiving from the first node to at least one other recipient node of said first group before the at least one recipient node fully receives its respective subfile" [Chung, paragraph [0016]]."

Chung discloses the above limitations but does not expressly teach:

- "...exchanging subfiles among said plurality of recipient nodes of said first group such that each recipient node of said first group obtains all of said plurality of subfiles."

With respect to Claim 1, an analogous art, Zayas, teaches:

- "...exchanging subfiles among said plurality of recipient nodes of said first group such that each recipient node of said first group obtains all of said plurality of subfiles" [Zayas col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]].

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Zayas with Chung because both inventions are directed towards file replication.

Zayas's invention would have been expected to successfully work well with Chung's invention because both inventions use computers connected over a network. Chung discloses the splitting and redundant storage on multiple servers comprising replicating subfiles across different servers on a network and the user downloading the different subfiles in parallel and simultaneously, however Chung does not expressly disclose that this operation is performed across all of the servers in the group of servers so that all the servers, much like the end user of Chung, has all of the subfiles. Zayas discloses an infrastructure for supporting file replications comprising a network of server computers replicating files.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the network of server computers replicating files from Zayas and install it into the method of Chung, thereby offering the obvious advantage of having the servers in Chung's invention be the file replicating servers of Zayas's network of server computers so that bandwidth may be saved during transfers between servers and end users, and so that a higher degree of redundancy is achieved between the servers. Adding Zayas to Chung makes the servers of Chung replicate between each other.

9. **Claim 3** can be mapped to Chung (as modified by Zayas) as follows: "The method of claim 1 wherein said partitioning comprises."

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Chung (as modified by Zayas) discloses the above limitation but does not expressly teach:

- "...partitioning said file into said plurality of subfiles corresponding in number to a number of said recipient nodes in said first group."

However, with respect to Claim 3, Chung (as modified by Zayas) teaches:

- "...partitioning said file into said plurality of subfiles corresponding in number to a number of said recipient nodes in said first group" [Chung, paragraph [0032]].

Chung (as modified by Zayas) does not expressly teach "partitioning said file into said plurality of subfiles corresponding in number to a number of said recipient nodes in said first group," but, in the citation mapping above, Chung admits the number of subfiles is arbitrary in his invention. So, it is understood that the number of subfiles could correspond in number to a number of said recipient nodes in said first group. Chung clearly teaches that the number of subfiles in his invention can be greater or smaller than the exemplified number making the number of subfiles merely a design choice. Therefore, Chung's invention is further modified to have the file partitioned into subfiles corresponding in number to a number of said recipient nodes in said first group thereby offering the obvious advantage of promoting an equal distribution of computer resources (the file).

10. **Claim 4** can be mapped to Chung (as modified by Zayas) as follows: "The method of claim 1 wherein said partitioning further comprises:

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- partitioning said file into said plurality of subfiles that are each approximately equal in size” [Chung, paragraph [0032]].
11. **Claim 5** can be mapped to Chung (as modified by Zayas) as follows: “The method of claim 1 further comprising:
- determining a number of said recipient nodes to include in said first group” [Chung, paragraph [0033]].
12. **Claim 6** can be mapped to Chung (as modified by Zayas) as follows: “The method of claim 5 wherein said determining comprises:
- determining a suitable number of concurrent communication connections that can be used for communication of information between one of the nodes and a plurality of the other nodes; [Chung, paragraph [0033] with Chung, paragraphs [0016]-[0017]] and
 - determining said number of recipient nodes to include in said first group as corresponding in number to said number of concurrent communication connections” [Chung, paragraph [0033]].
13. **Claim 7** can be mapped to Chung (as modified by Zayas) as follows: “The method of claim 1 wherein said distributing comprises:
- distributing the plurality of subfiles to said plurality of recipient nodes of said first group concurrently” [Chung, paragraphs [0016]-[0017]].
14. **Claim 8** can be mapped to Chung (as modified by Zayas) as follows: “The method of claim 1 wherein exchanging subfiles among said plurality of recipient nodes of said first group further comprises:

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- each of said plurality of recipient nodes establishing concurrent communication connections to every other recipient node of said first group” [Chung, paragraphs [0016]-[0017] with Chung, paragraph [0033]].

15. **Claim 9** can be mapped to Chung (as modified by Zayas) as follows: “The method of claim 1 wherein said first node and said plurality of recipient nodes of said first group each comprise a server computer” [Zayas, col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017]].

16. **Claim 10** can be mapped to Chung (as modified by Zayas) as follows: “The method of claim 9 wherein said first node and said plurality of recipient nodes are distributed server computers in a Content Distribution Network (CDN)” [Chung, paragraph [0031]].

17. **Claim 11** can be mapped to Chung (as modified by Zayas) as follows: “The method of claim 1 further comprising:

- said first group of recipient nodes communicating said file to a second group comprising a plurality of recipient nodes” [Zayas col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]].

18. **Claim 12** can be mapped to Chung (as modified by Zayas) as follows: “The method of claim 11 further comprising:

- each recipient node of said first group communicating a subfile to every recipient node of said second group such that said recipient nodes of said second group each receive all of said plurality of subfiles” [Zayas col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]].

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19. **Claim 13** can be mapped to Chung (as modified by Zayas) as follows:

"The method of claim 11 further comprising:

- each recipient node of said first group communicating the subfile that it receives from said first node to at least one node of the second group" [Zayas col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]].

20. **Claim 14** can be mapped to Chung (as modified by Zayas) as follows:

"The method of claim 13 wherein each recipient node of said first group begins communicating the subfile that it is receiving from said first node to said at least one node of the second group before fully receiving the subfile from the first node" [Zayas col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]].

21. **Claim 15** can be mapped to Chung (as modified by Zayas) as follows:

"The method of claim 1 further comprising:

- logically organizing a plurality of groups of recipient nodes into a primary multicast tree, [Zayas col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]] wherein the groups of the primary multicast tree are logically organized sequentially such that intermediate groups of the primary multicast tree each communicate the file to a next sequential group of the primary multicast tree and wherein each intermediate group begins to communicate the file to a next sequential group of the primary multicast tree before fully receiving the file from a

preceding group of the primary multicast tree" [Zayas col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]].

22. **Claim 16** can be mapped to Chung (as modified by Zayas) as follows:

"The method of claim 15 further comprising:

- further logically organizing a plurality of groups of recipient nodes into a secondary multicast tree, [Zayas col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]] wherein at least one group of the primary multicast tree begins communicating the file to at least one group of the secondary multicast tree after the group of the primary multicast tree has fully received the file" [Zayas col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]].

23. **Claims 17 and 19-22** encompass substantially the same scope of the invention as that of Claims 1, 3, 7, 11, and 14, respectfully, in addition to a system and some means for performing the method steps of Claims 1, 3, 7, 11, and 14, respectfully. Therefore, Claims 17 and 19-22 are rejected for the same reasons as stated above with respect to Claims 1, 3, 7, 11, and 14, respectfully.

24. **Claims 25, 26 and 28-31** encompass substantially the same scope of the invention as that of Claims 1, 1, 7, 8, 11, and 14, respectfully, in addition to a method and some steps for performing the method steps of Claims 1, 1, 7, 8, 11, and 14, respectfully. Therefore, Claims 25, 26, and 28-31 are rejected for the same reasons as stated above with respect to Claims 1, 1, 7, 8, 11, and 14, respectfully.

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25. Claims 2, 18, 23, 24, 27, and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2004/0088380 (Chung et al.) in view of U.S. Patent No. 6,477,583 (Zayas et al.), further in view of U.S. Patent No. 5,928,331 (Bushmitch).

26. For **Claim 2**, Chung (as modified by Zayas) teaches: "The method of claim 1 wherein said distributing comprising."

Chung (as modified by Zayas) discloses the above limitation but does not expressly teach:

- "...distributing from the first node a different subfile to each of said recipient nodes of said first group."

With respect to Claim 2, an analogous art, Bushmitch, teaches:

- "...distributing from the first node a different subfile to each of said recipient nodes of said first group" [Bushmitch, col. 4, lines 1-10 with Bushmitch, Fig. 2].

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Bushmitch with Chung (as modified by Zayas) because both inventions are directed towards multicasting files.

Bushmitch's invention would have been expected to successfully work well with Chung (as modified by Zayas)'s invention because both inventions use computers connected through a network. Chung (as modified by Zayas) discloses a the splitting and redundant storage on multiple servers comprising file replication across servers, however Chung (as modified by Zayas) does not expressly disclose distributing a different subfile to each of said recipient nodes.

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Bushmitch discloses a distributed internet protocol-based real-time multimedia streaming architecture comprising the distribution of a different subfile to each of said recipient nodes.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the distribution architecture from Bushmitch and install it into the method of Chung (as modified by Zayas), thereby offering the obvious advantage of increasing the parallel transmissions of Chung (as modified by Zayas) during distribution and end user downloading.

27. **Claim 18** encompasses substantially the same scope of the invention as that of Claim 2, in addition to a system and some means for performing the method steps of Claim 2. Therefore, Claim 18 is rejected for the same reasons as stated above with respect to Claim 2.

28. For **Claim 23**, Chung teaches: "A system [Chung, paragraph [0028]] comprising:

- an origin node operable to partition a file into a plurality of subfiles, [Chung, paragraph [0016]] wherein said plurality of subfiles correspond in number to a number of recipient nodes in a first group to which said file is to be distributed; [Chung, paragraph [0032]]
- said origin node operable to distribute all of said plurality of subfiles to said recipient nodes, [Chung, paragraphs [0016]-[0017] with Chung, paragraph [0009]]...and
- ...wherein at least one recipient node is operable to begin communicating a portion of its respective subfile that it is receiving from the origin node to

at least one other recipient node before the at least one recipient node fully receives its respective subfile from the origin node" [Chung, paragraph [0016]].

Since Chung admits the number of subfiles is arbitrary in his invention, it is understood that the number of subfiles could correspond in number to a number of said recipient nodes in said first group. Chung clearly teaches that the number of subfiles in his invention can be greater or smaller than the exemplified number, and is merely a design choice. Therefore, Chung's invention is modified to have the file partitioned into subfiles corresponding in number to a number of said recipient nodes in said first group thereby offering the obvious advantage of promoting an equal distribution of computer resources (the file).

Chung discloses the above limitations but does not expressly teach:

- "...wherein a different subfile is distributed from said origin node to each of said recipient nodes; and
- said recipient nodes operable to exchange their respective subfiles received from said origin node such that each recipient node obtains all of said plurality of subfiles."

With respect to Claim 23, an analogous art, Zayas, teaches:

- "...said recipient nodes operable to exchange their respective subfiles received from said origin node such that each recipient node obtains all of said plurality of subfiles" [Zayas col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]].

With respect to Claim 23, an analogous art, Bushmitch, teaches:

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- "...wherein a different subfile is distributed from said origin node to each of said recipient nodes; [Bushmitch, col. 4, lines 1-10 with Bushmitch, Fig. 2]

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Zayas and Bushmitch with Chung because the inventions are directed towards networking computers together for file replication or multicasting.

Zayas's and Bushmitch's invention would have been expected to successfully work well with Chung's invention because the inventions use computer networks. Chung discloses the splitting and redundant storage on multiple servers comprising replicating subfiles across different servers on a network and the user downloading the different subfiles in parallel and simultaneously, however Chung does not expressly disclose that this operation is performed across all of the servers in the group of servers so that all the servers, much like the end user of Chung, has all of the subfiles or distributing a different subfile to each of said recipient nodes. Zayas discloses an infrastructure for supporting file replications comprising a network of server computers replicating files. Bushmitch discloses a distributed internet protocol-based real-time multimedia streaming architecture comprising the distribution of a different subfile to each of said recipient nodes.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the network of server computers replicating files from Zayas and the distribution architecture from Bushmitch and install them into the system of Chung, thereby offering the obvious advantage of having the servers in Chung's

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invention be the file replicating servers of Zayas's network of server computers so that bandwidth may be saved during transfers between servers and end users, and so that a higher degree of redundancy is achieved between the servers. Adding Zayas to Chung makes the servers of Chung replicate between each other. Bushmitch offers the obvious advantage of increasing the parallel transmissions of Chung (as modified by Zayas) during distribution and end user downloading.

29. **Claim 24** can be mapped to Chung (as modified by Zayas and Bushmitch) as follows: "The system of claim 23 wherein the origin node is operable to distribute the plurality of subfiles to said number of recipient nodes of said first group concurrently" [Chung, paragraphs [0016]-[0017]].

30. **Claim 27** encompasses substantially the same scope of the invention as that of Claim 2, in addition to a method and some steps for performing the method steps of Claim 2. Therefore, Claim 27 is rejected for the same reasons as stated above with respect to Claim 2.

31. For **Claim 32**, Chung teaches: "A method of distributing from a first node to a plurality of recipient nodes...the method comprising:

- distributing a plurality of descriptors of a file encoded with multiple description coding (MDC) from a first node to a first group comprising a plurality of recipient nodes, wherein at least one descriptor is distributed from the first node to each recipient node of said first group but not all of said plurality of descriptors are distributed from the first node to any of the recipient nodes of said first group; and

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- ...wherein at least one recipient node of said first group begins communicating a portion of its respective descriptor that it is receiving from the first node to at least one other recipient node of said first group before the at least one recipient node fully receives its respective descriptor from the first node" [Chung, paragraph [0016]].

Chung discloses the above limitations but does not expressly teach:

- "...a file encoded with multiple description coding
- "...said plurality of recipient nodes of said first group exchanging their respective descriptors such that each recipient node of said first group obtains all of said plurality of descriptors"

With respect to Claim 32, an analogous art, Zayas, teaches:

- "...said plurality of recipient nodes of said first group exchanging their respective descriptors such that each recipient node of said first group obtains all of said plurality of descriptors [Zayas col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]].

With respect to Claim 32, an analogous art, Bushmitch, teaches:

- "a file encoded with multiple description coding [Bushmitch, col. 3, lines 31-46].

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Zayas and Bushmitch with Chung because the inventions are directed towards networking computers together for file replication or multicasting.

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Zayas's and Bushmitch's invention would have been expected to successfully work well with Chung's invention because the inventions use computer networks. Chung discloses the splitting and redundant storage on multiple servers comprising replicating subfiles across different servers on a network and the user downloading the different subfiles in parallel and simultaneously, however Chung does not expressly disclose that this operation is performed across all of the servers in the group of servers so that all the servers, much like the end user of Chung, has all of the subfiles or that MDC is used. Zayas discloses an infrastructure for supporting file replications comprising a network of server computers replicating files. Bushmitch discloses a distributed internet protocol-based real-time multimedia streaming architecture comprising the use of MDC.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the network of server computers replicating files from Zayas and MDC from Bushmitch and install them into the system of Chung, thereby offering the obvious advantage of having the servers in Chung's invention be the file replicating servers of Zayas's network of server computers so that bandwidth may be saved during transfers between servers and end users, and so that a higher degree of redundancy is achieved between the servers. Adding Zayas to Chung makes the servers of Chung replicate between each other. Bushmitch offers the obvious advantage of providing a high quality of service and make the invention work with existing real time data transport.

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32. **Claim 33** can be mapped to Chung (as modified by Zayas and Bushmitch)

as follows: "The method of claim 32 wherein said distributing comprising:

- distributing from the first node a different descriptor to each of said recipient nodes of said first group" [Bushmitch, col. 4, lines 1-10 with Bushmitch, Fig. 2].

Chung (as modified by Zayas and Bushmitch) discloses a the splitting and redundant storage on multiple servers comprising file replication across servers, however Chung (as modified by Zayas and Bushmitch) does not expressly disclose distributing a different subfile to each of said recipient nodes. Bushmitch discloses a distributed internet protocol-based real-time multimedia streaming architecture comprising the distribution of a different subfile to each of said recipient nodes.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the distribution architecture from Bushmitch and install it into the method of Chung (as modified by Zayas and Bushmitch), thereby offering the obvious advantage of increasing the parallel transmissions of Chung (as modified by Zayas and Bushmitch) during distribution and end user downloading. This further modifies the previous combination of Chung (as modified by Zayas and Bushmitch).

33. **Claim 34** can be mapped to Chung (as modified by Zayas and Bushmitch)

as follows: "The method of claim 32 wherein said distributing comprises:

- distributing the plurality of descriptors to said plurality of recipient nodes of said first group concurrently" [Chung, paragraphs [0016]-[0017]].

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Conclusion

34. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is advised that, although not used in the rejections above, prior art cited on the PTO-892 form and not relied upon is considered materially relevant to the applicant's claimed invention and/or portions of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brent S. Stace whose telephone number is 571-272-8372. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 571-272-4023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brent Stace



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